

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 03.08.2016

Version: 5.1

Product: **Nerolidol**

(ID no. 30034996/SDS_GEN_EU/EN)

Date of print 04.08.2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Nerolidol

Chemical name: 3,7,11-Trimethyldodeca-1,6,10-trien-3-ol,mixed isomers

CAS Number: 7212-44-4

REACH registration number: 01-2119457636-29-0000

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Chemical, Chemical for detergents, Cosmetic and oral care chemical, flavoring substance

Recommended use: Chemical, flavoring substance, Chemical for detergents, Cosmetic and oral care chemical

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Nutrition and Health

Telephone: +49 621 60-48434

E-mail address: EN-global-safety-data@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Eye Dam./Irrit. 2
Aquatic Acute 1
Aquatic Chronic 1

H319, H400, H410

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

Globally Harmonized System, EU (GHS)

Pictogram:



Signal Word:

Warning

Hazard Statement:

H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P273	Avoid release to the environment.
P280	Wear eye/face protection.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391	Collect spillage.
P337 + P311	If eye irritation persists: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
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2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

3,7,11-Trimethyldodeca-1,6,10-trien-3-ol, mixed isomers

CAS Number: 7212-44-4

EC-Number: 230-597-5

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing. First aid personnel should pay attention to their own safety.

If inhaled:

If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open. If irritation develops, seek medical attention.

On ingestion:

Rinse mouth and then drink plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
carbon dioxide, dry powder, foam

Unsuitable extinguishing media for safety reasons:
water

5.2. Special hazards arising from the substance or mixture

Burning produces harmful and toxic fumes.

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:

Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Fire debris must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

6.2. Environmental precautions

Do not empty into drains.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

For large amounts: Dike spillage. Pump off product.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Ensure thorough ventilation of stores and work areas.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: Aluminium, High density polyethylene (HDPE), tinned carbon steel (Tinplate), glass, Low density polyethylene (LDPE), Stove-lacquer RDL 50

Further information on storage conditions: Keep at temperature not exceeding 50°C. Keep in a cool, well-ventilated place. Do not keep the container sealed.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

PNEC

freshwater: 0.00051 mg/l

marine water: 0.00005 mg/l

intermittent release: 0.0051 mg/l

sediment (freshwater): 0.0698 mg/kg

sediment (marine water): 0.00698 mg/kg

soil: 0.0136 mg/kg

STP: 10 mg/l

DNEL

worker:

Long-term exposure- systemic effects, Inhalation: 10 mg/m³

worker:

Long-term exposure- systemic effects, dermal: 2.8 mg/kg bw/day

consumer:

Long-term exposure- systemic effects, Inhalation: 2.9 mg/m³

consumer:

Long-term exposure- systemic effects, dermal: 1.7 mg/kg bw/day

consumer:

Long-term exposure- systemic effects, oral: 0.8 mg/kg bw/day

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin, eyes and clothing. Wearing of closed work clothing is recommended. Keep away from food, drink and animal feeding stuffs. When using, do not eat, drink or smoke. Store work clothing separately.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form: liquid
Colour: colourless to yellow
Odour: flowery
Odour threshold: < 100 ppm
pH value: approx. 7
4.7
(0.023 g/l, 25 °C)

glass transition temperature: -90 °C
(1,013 hPa)

(OECD Guideline 102)

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Boiling point:	276 °C (1,013.25 hPa) Literature data.	
Flash point:	128 °C	(DIN EN 22719; ISO 2719)
Evaporation rate:	not determined	
Flammability:	not flammable	
Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	237 °C	(Directive 84/449/EEC, A.15)
Vapour pressure:	0.0024 hPa (20 °C)	(OECD Guideline 104)
Density:	0.88 g/cm ³ (20 °C) Literature data. 0.85 g/cm ³ (50 °C)	
Relative density:	0.88 (20 °C) Literature data.	
Relative vapour density (air):	not determined	
Solubility in water:	14.1 mg/l (20 °C)	(Directive 92/69/EEC, A.6)
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	4.5 (24 °C; pH value: approx. 7)	(Directive 92/69/EEC, A.8)
Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	385 °C, 0.34 kJ/g, (DSC (OECD 113))	
Viscosity, dynamic:	13.8 mPa.s (20 °C)	(OECD 114)
	5.50 mPa.s (40 °C)	(OECD 114)
Viscosity, kinematic:	15.8 mm ² /s (20 °C)	(OECD 114)
	6.41 mm ² /s (40 °C)	(OECD 114)
Explosion hazard:	Based on the chemical structure there is no indicating of explosive properties.	

Fire promoting properties: Based on its structural properties the product is not classified as oxidizing.

9.2. Other information

Self heating ability: Not tested on account of the low melting-point.
It is not a substance capable of spontaneous heating.

pKA: The substance does not dissociate.,
Study scientifically not justified.

Surface tension: Based on chemical structure, surface activity is not to be expected.

Grain size distribution: The substance / product is marketed or used in a non solid or granular form.

Molar mass: 222.37 g/mol

SECTION 10: Stability and Reactivity

10.1. Reactivity

Corrosion to metals: Corrosive effects to metal are not anticipated.

Formation of flammable gases: Remarks: Forms no flammable gases in the presence of water.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions.

10.4. Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame.

10.5. Incompatible materials

Substances to avoid:
acids, bases

10.6. Hazardous decomposition products

Hazardous decomposition products:
acetylene; ethyne

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Inhalation-risk test (IRT): No mortality within 7 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): > 2,610 mg/kg (BASF-Test)

No mortality was observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

rat (by inhalation): 7 h (IRT)

Inhalation-risk test (IRT): No mortality within 7 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

LD50 rabbit (dermal): > 5,000 mg/kg

No mortality was observed.

Irritation

Assessment of irritating effects:

Not irritating to the skin. Eye contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Serious eye damage/irritation rabbit: Irritant. (OECD Guideline 405)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies. Autoxidation products of the substance may be sensitizing.

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria. No mutagenic effect was found in various tests with mammalian cell culture and mammals. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Carcinogenicity

Assessment of carcinogenicity:

No reliable data was available concerning carcinogenic activity.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:

Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on available Data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

The substance may cause damage to the liver after repeated ingestion of high doses, as shown in animal studies.

Aspiration hazard

No aspiration hazard expected.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

Very toxic (acute effect) to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:

LC50 (96 h) 1.43 mg/l, Pimephales promelas (Flow through.)

The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates:

EC50 (48 h) 0.510 mg/l, Daphnia magna (Directive 79/831/EEC, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic plants:

EC50 (72 h) 2 mg/l (growth rate), Desmodium subspicatum (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration.

Microorganisms/Effect on activated sludge:

EC20 (0.5 h) 180 mg/l, activated sludge (OECD Guideline 209, aerobic)

Chronic toxicity to fish:

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:

Study scientifically not justified.

Assessment of terrestrial toxicity:

Study scientifically not justified.

12.2. Persistence and degradability**Assessment biodegradation and elimination (H₂O):**

Readily biodegradable (according to OECD criteria).

Elimination information:

70 - 80 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EEC, C.4-D) (aerobic, activated sludge, domestic)

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

12.3. Bioaccumulative potential**Assessment bioaccumulation potential:**

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is possible.

12.4. Mobility in soil**Assessment transport between environmental compartments:**

Volatility: The substance will slowly evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria.

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According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling vPvB (very persistent/very bioaccumulative) criteria.

12.6. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Observe national and local legal requirements.

SECTION 14: Transport Information

Land transport

ADR

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 3,7,11-TRIMETHYL-DODECATRIEN-3-OL)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 3,7,11-TRIMETHYL-DODECATRIEN-3-OL)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 3,7,11-TRIMETHYL-DODECATRIEN-3-OL)

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Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number: UN 3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 3,7,11-TRIMETHYL-DODECATRIEN-3-OL)
Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Marine pollutant: YES
Special precautions for user: None known

Air transport

IATA/ICAO

UN number: UN 3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 3,7,11-TRIMETHYL-DODECATRIEN-3-OL)
Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

14.1. UN number

See corresponding entries for "UN number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

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See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Regulation: Not evaluated

Shipment approved: Not evaluated

Pollution name: Not evaluated

Pollution category: Not evaluated

Ship Type: Not evaluated

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 3

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Aquatic Acute 1

Aquatic Chronic 1

Eye Dam./Irrit. 2B

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

Eye Dam./Irrit. Serious eye damage/eye irritation

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Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.